

Development Services

From Concept to Construction

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APPEAL SUMMARY

Status: Decision Rendered

Appeal ID: 18779	Project Address: 4814 NE 107th Ave
Hearing Date: 12/19/18	Appellant Name: Vaughn Hartung
Case No.: B-001	Appellant Phone: 503-765-1661
Appeal Type: Building	Plans Examiner/Inspector: Joe Thornton
Project Type: commercial	Stories: 2 Occupancy: B, F-1, S-1 Construction Type: V-B
Building/Business Name:	Fire Sprinklers: Yes - throughout building
Appeal Involves: other: Approval of an existing appliance	LUR or Permit Application No.: 18-241135-CO
Plan Submitted Option: pdf [File 1]	Proposed use: Cannabis production

APPEAL INFORMATION SHEET

Appeal item 1

Code Section OSSC/27/#1, NEC/7/#1, NFPA 7.9.7

Requires OSSC/27/#1 & NEC/7/#1. Natural gas may only be used as emergency or required standby power supply for elevators required for accessible means of egress and not for other systems Other alternatives may be reviewed and considered on a case-by-case basis through the BOS administrative appeals process.

NFPA 7.9.7. Where the gas supply is connected to the building gas supply system, it shall be connected on the supply side of the main as shutoff valve and marked as supplying an emergency generator.

Proposed Design The purpose of this appeal is to receive approval for an existing outdoor natural gas emergency generator appliance for a cannabis processing facility. The purpose of this appliance is to provide emergency backup power to life safety systems in extraction to include alarms, lights, a backup air compressor, and ventilation fans in the event of a power failure per the BOS Cannabis Facility code guide. The appliance is designed to run for a minimum of two hours plus an extraction batch run time to safely complete an in process extraction batch in the event of a power failure. The Engineering Documents under permit 2016-212167-REV-01-MT, prepared by a 3rd party licensed mechanical engineer, demonstrates that the appliance in the context of a complete engineered system qualifies as an alternative to the prescribed emergency generator fuel supply per code OSSC/27/#1 & NEC/7/#1.

NFPA 7.9.7 infers that natural gas emergency generators may be supplied by the building's natural gas system. Additionally, no OFC or NFPA requirement exists for emergency generators to be supplied by "on-site" fuel sources. As the existing emergency generator is connected to the building's natural gas system it is capable of operating for a minimum of 2-hours in the event of a power failure as required by NEC.

Reason for alternative The City of Portland Fire Marshal's office has indicated that it does allow for the use of natural gas emergency generators for the purposes of extraction facilities in the context of supporting emergency life safety systems of an extraction system designed by a 3rd party licensed engineer, as the natural gas emergency generator and natural gas fuel supply system was explicitly listed and previously approved under permits 2016-212167-REV-02-MT and 2016-212152-REV-01-CO. Further, modification or replacement of the existing emergency natural gas generator would cause significant hardship and irreparable monetary harm to our processing business. Please reference the following documents and permits: Engineering Documents under permit 2016-212167-REV-01-MT, Plans167- REV-02-MT under permit 2016-212167-REV-02-MT, Plans152-Rev1 under permit 2016-212152- REV-01-CO, and a copy of the Natural Gas Emergency Generator Specifications for review.

APPEAL DECISION

Use of natural gas generator without backup fuel supply as source for emergency lighting system: Denied. Proposal does not provide equivalent Life Safety protection. Appellant may contact John Butler (503 823-7339) with questions.

Pursuant to City Code Chapter 24.10, you may appeal this decision to the Building Code Board of Appeal within 180 calendar days of the date this decision is published. For information on the appeals process and costs, including forms, appeal fee, payment methods and fee waivers, go to www.portlandoregon.gov/bds/appealsinfo, call (503) 823-7300 or come in to the Development Services Center.

GENERAC®

16/20/22 kW

1 of 1

16/20/22 kW

GUARDIAN® SERIES Residential Standby Generators Air-Cooled Gas Engine

INCLUDES:

- True Power™ Electrical Technology
- Two Line LCD Multilingual Digital Evolution™ Controller (English/Spanish/French/Portuguese)
- Two Transfer Switch Options Available:
100 Amp, 16 Circuit Switch or
200 Amp Service Rated Smart Switch.
See Page 5 for Details.
- Electronic Governor
- Standard Wi-Fi™ Remote Monitoring
- System Status & Maintenance Interval LED Indicators
- Sound Attenuated Enclosure
- Flexible Fuel Line Connector
- Direct-To-Dirt Composite Mounting Pad
- Natural Gas or LP Gas Operation
- 5 Year Limited Warranty
- Listed and Labeled by the Southwest Research Institute allowing installation as close as 18" (457 mm) to a structure.*
**Must be located away from doors, windows, and fresh air intakes and in accordance with local codes.*

https://assets.swri.org/library/DirectoryOfListedProducts/ConstructionIndustry/973_DoC_204_13204-01-01_Rev9.pdf

Standby Power Rating

Models G007036-1, G007037-1 (Aluminum - Bisque) - 16 kW 60 Hz
Model G007035-1 (Aluminum - Bisque) - 16 kW 60 Hz
Models G007039-1, G007038-1 (Aluminum - Bisque) - 20 kW 60 Hz
Models G007043-2, G007042-2 (Aluminum - Bisque) - 22 kW 60 Hz



QUIET-TEST™



Note: CUL certification only applies to unbundled units and units packaged with limited circuit switches. Units packaged with the Smart Switch are UL certified in the USA only.

FEATURES

- **INNOVATIVE ENGINE DESIGN & RIGOROUS TESTING** are at the heart of Generac's success in providing the most reliable generators possible. Generac's G-Force engine lineup offers added peace of mind and reliability for when you need it the most. The G-Force series engines are purpose built and designed to handle the rigors of extended run times in high temperatures and extreme operating conditions.
- **TRUE POWER™ ELECTRICAL TECHNOLOGY:** Superior harmonics and sine wave form produce less than 5% Total Harmonic Distortion for utility quality power. This allows confident operation of sensitive electronic equipment and micro-chip based appliances, such as variable speed HVAC systems.
- **TEST CRITERIA:**
 - ✓ **PROTOTYPE TESTED**
 - ✓ **SYSTEM TORSIONAL TESTED**
 - ✓ **NEMA MG1-22 EVALUATION**
 - ✓ **MOTOR STARTING ABILITY**
- **MOBILE LINK™ REMOTE MONITORING:** FREE with every Guardian Series Home standby generator. Allows you to monitor the status of your generator from anywhere in the world using a smartphone, tablet, or PC. Easily access information such as the current operating status and maintenance alerts. Connect your account to your authorized service dealer for fast, friendly and proactive service. With Mobile Link, you are taken care of before the next power outage.
- **SOLID-STATE, FREQUENCY COMPENSATED VOLTAGE REGULATION:** This state-of-the-art power maximizing regulation system is standard on all Generac models. It provides optimized FAST RESPONSE to changing load conditions and MAXIMUM MOTOR STARTING CAPABILITY by electronically torque-matching the surge loads to the engine. Digital voltage regulation at $\pm 1\%$.
- **SINGLE SOURCE SERVICE RESPONSE** from Generac's extensive dealer network provides parts and service know-how for the entire unit, from the engine to the smallest electronic component.
- **GENERAC TRANSFER SWITCHES:** Long life and reliability are synonymous with GENERAC POWER SYSTEMS. One reason for this confidence is that the GENERAC product line includes its own transfer systems and controls for total system compatibility.

THE GENERAC
PROMISE



* Assembled in the USA using domestic and foreign parts.

16/20/22 kW

Engine

- Generac G-Force design
- "Spiny-lok" cast iron cylinder walls
- Electronic ignition/spark advance
- Full pressure lubrication system
- Low oil pressure shutdown system
- High temperature shutdown

Maximizes engine "breathing" for increased fuel efficiency. Plateau honed cylinder walls and plasma moly rings helps the engine run cooler, reducing oil consumption resulting in longer engine life.

Rigid construction and added durability provide long engine life.

These features combine to assure smooth, quick starting every time.

Pressurized lubrication to all vital bearings means better performance, less maintenance and longer engine life. Now featuring up to a 2 year/200 hour oil change interval.

Shutdown protection prevents catastrophic engine damage due to low oil.

Prevents damage due to overheating.

Generator

- Revolving field
- Skewed stator
- Displaced phase excitation
- Automatic voltage regulation
- UL 2200 listed

Allows for a smaller, light weight unit that operates 25% more efficiently than a revolving armature generator.

Produces a smooth output waveform for compatibility with electronic equipment.

Maximizes motor starting capability.

Regulates the output voltage to $\pm 1\%$ prevents damaging voltage spikes.

For your safety.

Transfer Switch (if applicable)

- Fully automatic
- NEMA 3R
- Remote mounting

Transfers your vital electrical loads to the energized source of power.

Can be installed inside or outside for maximum flexibility.

Mounts near your existing distribution panel for simple, low-cost installation.

Evolution™ Controls

- Auto/Manual/Off illuminated buttons
- Two-line LCD multilingual display
- Sealed, raised buttons
- Utility voltage sensing
- Generator voltage sensing
- Utility interrupt delay
- Engine warm-up
- Engine cool-down
- Programmable exercise
- Smart battery charger
- Main line circuit breaker
- Electronic governor

Selects the operating mode and provides easy, at-a-glance status indication in any condition.

Provides homeowners easily visible logs of history, maintenance and events up to 50 occurrences.

Smooth, weather-resistant user interface for programming and operations.

Constantly monitors utility voltage, setpoints 65% dropout, 80% pick-up, of standard voltage.

Constantly monitors generator voltage to ensure the cleanest power delivered to the home.

Prevents nuisance start-ups of the engine, adjustable 2-1500 seconds from the factory default setting of five (5) seconds by a qualified dealer.

Ensures engine is ready to assume the load, setpoint approximately 5 seconds.

Allows engine to cool prior to shutdown, setpoint approximately 1 minute.

Operates engine to prevent oil seal drying and damage between power outages by running the generator for 5 minutes every other week. Also offers a selectable setting for weekly or monthly operation providing flexibility and potentially lower fuel costs to the owner.

Delivers charge to the battery only when needed at varying rates depending on outdoor air temperature. Compatible with lead acid and AGM-style batteries.

Protects generator from overload.

Maintains constant 60 Hz frequency.

Unit

- SAE weather protective enclosure
- Enclosed critical grade muffler
- Small, compact, attractive

Sound attenuated enclosures ensure quiet operation and protection against mother nature, withstanding winds up to 150 mph. Hinged key locking roof panel for security. Lift-out front for easy access to all routine maintenance items. Electrostatically applied textured epoxy paint for added durability.

Quiet, critical grade muffler is mounted inside the unit to prevent injuries.

Makes for an easy, eye appealing installation, as close as 18" (457 mm) away from a building.

16/20/22 kW

features and benefits

Installation System

- 1 ft (305 mm) flexible fuel line connector
- Direct-to-dirt composite mounting pad
- Integral sediment trap

Absorbs any generator vibration when connected to rigid pipe.

Complex lattice design prevents settling or sinking of the generator system.

Prevents particles and moisture from entering the fuel regulator and engine, prolonging engine life.

Remote Monitoring

- Ability to view generator status
- Ability to view generator Exercise/Run and Total Hours
- Ability to view generator maintenance information
- Monthly report with previous month's activity.
- Ability to view generator battery information
- Weather information

Monitor your generator via your smartphone, tablet, or computer at any time via the Mobile Link application for complete peace of mind

Review the generator's complete protection profile for exercise hours and total hours

Provides maintenance information for your specific model generator when scheduled maintenance is due

Detailed monthly reports provide historical generator information

Built in battery diagnostics displaying current state of the battery

Provides detailed local ambient weather conditions for generator location

16/20/22 kW

specifications

Generator

Model	G007035-1, G007036-1, G007037-1 (16 kW)	G007038-1, G007039-1 (20 kW)	G007042-2, G007043-2 (22 kW)
Rated Maximum Continuous Power Capacity (LP)	16,000 Watts*	20,000 Watts*	22,000 Watts*
Rated Maximum Continuous Power Capacity (NG)	16,000 Watts*	18,000 Watts*	19,500 Watts *
Rated Voltage	240	240	240
Rated Maximum Continuous Load Current – 240 Volts (LP/NG)	66.7 / 66.7	83.3 / 75.0	91.7 / 81.3
Total Harmonic Distortion	Less than 5%	Less than 5%	Less than 5%
Main Line Circuit Breaker	70 Amp	90 Amp	100 Amp
Phase	1	1	1
Number of Rotor Poles	2	2	2
Rated AC Frequency	60 Hz	60 Hz	60Hz
Power Factor	1.0	1.0	1.0
Battery Requirement (not included)	12 Volts, Group 26R 540 CCA Minimum or Group 35AGM 650 CCA Minimum		
Unit Weight (lb/kg)	409 / 186	448 / 203	466 / 211
Dimensions (L x W x H) in/mm	48 x 25 x 29 / 1 218 x 638 x 732		
Sound output in dB(A) at 23 ft (7 m) with generator operating at normal load**	67	67	67
Sound output in dB(A) at 23 ft (7 m) with generator in Quiet-Test™ low-speed exercise mode**	55	55	57
Exercise duration	5 min	5 min	5 min

Engine

Type of Engine	GENERAC G-Force 1000 Series		
Number of Cylinders	2	2	2
Displacement	999 cc	999 cc	999 cc
Cylinder Block	Aluminum w/ Cast Iron Sleeve		
Valve Arrangement	Overhead Valve	Overhead Valve	Overhead Valve
Ignition System	Solid-state w/ Magneto	Solid-state w/ Magneto	Solid-state w/ Magneto
Governor System	Electronic	Electronic	Electronic
Compression Ratio	9.5:1	9.5:1	9.5:1
Starter	12 VDC	12 VDC	12 VDC
Oil Capacity Including Filter	Approx. 1.9 qt / 1.8 L	Approx. 1.9 qt / 1.8 L	Approx. 1.9 qt / 1.8 L
Operating rpm	3,600	3,600	3,600
Fuel Consumption			
Natural Gas	ft ³ /hr (m ³ /hr)		
1/2 Load	218 (6.17)	204 (5.78)	228 (6.46)
Full Load	309 (8.75)	301 (8.52)	327 (9.26)
Liquid Propane	ft ³ /hr (gal/hr) [l/hr]		
1/2 Load	74 (2.03) [7.70]	87 (2.37) [8.99]	92 (2.53) [9.57]
Full Load	107 (2.94) [11.11]	130 (3.56) [13.48]	142 (3.90) [14.77]

Note: **Fuel pipe must be sized for full load.** Required fuel pressure to generator fuel inlet at all load ranges - 3.5-7" water column (7-13 mm mercury) for natural gas, 10-12" water column (19-22 mm mercury) for LP gas. For BTU content, multiply ft³/hr x 2500 (LP) or ft³/hr x 1000 (NG). For Megajoule content, multiply m³/hr x 93.15 (LP) or m³/hr x 37.26 (NG)

Controls

Two-Line Plain Text Multilingual LCD Display	Simple user interface for ease of operation.
Mode Buttons:Auto	Automatic Start on Utility failure. 7 day exerciser.
Manual	Start with starter control, unit stays on. If utility fails, transfer to load takes place.
Off	Stops unit. Power is removed. Control and charger still operate.
Ready to Run/Maintenance Messages	Standard
Engine Run Hours Indication	Standard
Programmable start delay between 2-1500 seconds	Standard (programmable by dealer only)
Utility Voltage Loss/Return to Utility Adjustable (Brownout Setting)	From 140-171 V / 190-216 V
Future Set Capable Exerciser/Exercise Set Error Warning	Standard
Run/Alarm/Maintenance Logs	50 Events Each
Engine Start Sequence	Cyclic cranking: 16 sec on, 7 rest (90 sec maximum duration).
Starter Lock-out	Starter cannot re-engage until 5 sec after engine has stopped.
Smart Battery Charger	Standard
Charger Fault/Missing AC Warning	Standard
Low Battery/Battery Problem Protection and Battery Condition Indication	Standard
Automatic Voltage Regulation with Over and Under Voltage Protection	Standard
Under-Frequency/Overload/Stepper Overcurrent Protection	Standard
Safety Fused/Fuse Problem Protection	Standard
Automatic Low Oil Pressure/High Oil Temperature Shutdown	Standard
Overcrank/Overspeed (@ 72 Hz)/rpm Sense Loss Shutdown	Standard
High Engine Temperature Shutdown	Standard
Internal Fault/Incorrect Wiring Protection	Standard
Common External Fault Capability	Standard
Field Upgradable Firmware	Standard

**Sound levels are taken from the front of the generator. Sound levels taken from other sides of the generator may be higher depending on installation parameters. Rating definitions - Standby: Applicable for supplying emergency power for the duration of the utility power outage. No overload capability is available for this rating. (All ratings in accordance with BS5514, ISO3046 and DIN6271). * Maximum kilovolt amps and current are subject to and limited by such factors as fuel Btu/megajoule content, ambient temperature, altitude, engine power and condition, etc. Maximum power decreases about 3.5 percent for each 1,000 feet (304.8 meters) above sea level; and also will decrease about 1 percent for each 6 °C (10 °F) above 16 °C (60 °F).

16/20/22 kW

Limited Circuits Switch Features

- 16 space, 24 circuit, breakers not included.
- Electrically operated, mechanically-held contacts for fast, positive connections
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- 30 millisecond transfer time.
- Dual coil design.
- Rated for both copper and aluminum conductors.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.
- Multi listed for use with 1" standard, tandem, GFCI and AFCI breakers from Siemens, Murray, Eaton and Square D for the most flexible and cost effective install.

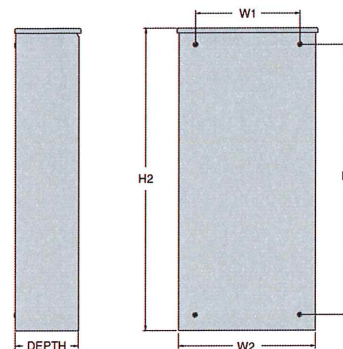
Dimensions

	Height		Width		Depth
	H1	H2	W1	W2	
in	26.75	30.1	10.5	13.5	6.91
mm	679.4	764.3	266.7	343.0	175.4

Wire Ranges		
Conductor Lug	Neutral Lug	Ground Lug
1/0 - #14	2/0 - #14	2/0 - #14

Model	G007036-1 (16kW)
No. of Poles	2
Current Rating (Amps)	100
Voltage Rating (VAC)	120 / 240, 1Ø
Utility Voltage Monitor (Fixed)*	
-Pick-up	80%
-Dropout	65%
Return to Utility*	approx. 15 sec
Exercises bi-weekly for 5 minutes*	Standard
UL Listed	Standard
Total Circuits Available	24
Tandem Breaker Capabilities	8 tandems
Circuit Breaker Protected	
Available RMS Symmetrical	10,000
Fault Current @ 250 Volts	

*Function of Evolution Controller
Exercise can be set to weekly or monthly



Service Rated Smart Switch Features

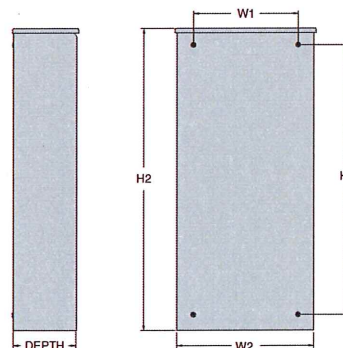
- Includes Digital Power Management Technology standard (DPM).
- Intelligently manages up to four air conditioner loads with no additional hardware.
- Up to four more large (240 VAC) loads can be managed when used in conjunction with Smart Management Modules (SMMs).
- Electrically operated, mechanically-held contacts for fast, clean connections.
- Rated for all classes of load, 100% equipment rated, both inductive and resistive.
- 2-pole, 250 VAC contactors.
- Service equipment rated, dual coil design.
- Rated for both aluminum and copper conductors.
- Main contacts are silver plated or silver alloy to resist welding and sticking.
- NEMA/UL 3R aluminum outdoor enclosure allows for indoor or outdoor mounting flexibility.

Dimensions

	200 Amps 120/240, 1Ø Open Transition Service Rated				
	Height		Width		Depth
	H1	H2	W1	W2	
in	26.75	30.1	10.5	13.5	6.91
mm	679.4	764.3	266.7	343.0	175.4

Model	G007037-1 (16 kW)/G007039-1 (20 kW)/ G007043-2 (22 kW)
No. of Poles	2
Current Rating (Amps)	200
Voltage Rating (VAC)	120/240, 1Ø
Utility Voltage Monitor (Fixed)*	
-Pick-up	80%
-Dropout	65%
Return to Utility*	approx. 13 sec
Exercises bi-weekly for 5 minutes*	Standard
UL Listed	Standard
Enclosure Type	NEMA/UL 3R
Circuit Breaker Protected	22,000
Lug Range	250 MCM - #6

*Function of Evolution Controller
Exercise can be set to weekly or monthly



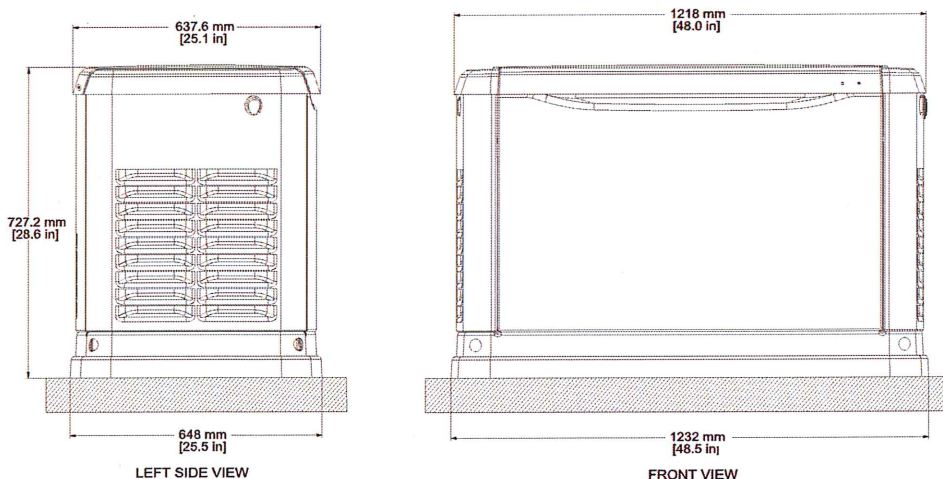
16/20/22 kW

available accessories

Model #	Product	Description
G007005-0	Wi-Fi LP Fuel Level Monitor	The Wi-Fi enabled LP fuel level monitor provides constant monitoring of the connected LP fuel tank. Monitoring the LP tank's fuel level is an important step in making sure your generator is ready to run during an unexpected power failure. Status alerts are available through a free application to notify when your LP tank is in need of a refill.
G005819-0	26R Wet Cell Battery	Every standby generator requires a battery to start the system. Generac offers the recommended 26R wet cell battery for use with all air-cooled standby product (excluding PowerPact®).
G007101-0	Battery Pad Warmer	The pad warmer rests under the battery. Recommended for use if the temperature regularly falls below 0 °F (-18 °C). (Not necessary for use with AGM-style batteries).
G007102-0	Oil Warmer	Oil warmer slips directly over the oil filter. Recommended for use if the temperature regularly falls below 0 °F (-18 °C).
G007103-1	Breather Warmer	The breather warmer is for use in extreme cold weather applications. For use with Evolution controllers only in climates where heavy icing occurs.
G005621-0	Auxiliary Transfer Switch Contact Kit	The auxiliary transfer switch contact kit allows the transfer switch to lock out a single large electrical load you may not need. Not compatible with 50 amp pre-wired switches.
G007027-0 - Bisque	Fascia Base Wrap Kit (Standard on 22 kW)	The fascia base wrap snaps together around the bottom of the new air cooled generators. This offers a sleek, contoured appearance as well as offering protection from rodents and insects by covering the lifting holes located in the base.
G005703-0 - Bisque	Paint Kit	If the generator enclosure is scratched or damaged, it is important to touch up the paint to protect from future corrosion. The paint kit includes the necessary paint to properly maintain or touch up a generator enclosure.
G006485-0	Scheduled Maintenance Kit	Generac's scheduled maintenance kits provide all the hardware necessary to perform complete routine maintenance on a Generac automatic standby generator.
G006873-0	Smart Management Module (50 Amps)	Smart Management Modules are used in conjunction with the Automatic Transfer Switch to increase its power management capabilities. It provides additional power management flexibility not found in any other power management system.

dimensions & UPCs

Dimensions shown are approximate. Refer to installation manual for exact dimensions. DO NOT USE THESE DIMENSIONS FOR INSTALLATION PURPOSES.



Model	UPC
G007035-1	696471074161
G007036-1	696471074154
G007037-1	696471074178
G007038-1	696471074185
G007039-1	696471074192
G007042-2	696471074208
G007043-2	696471074215